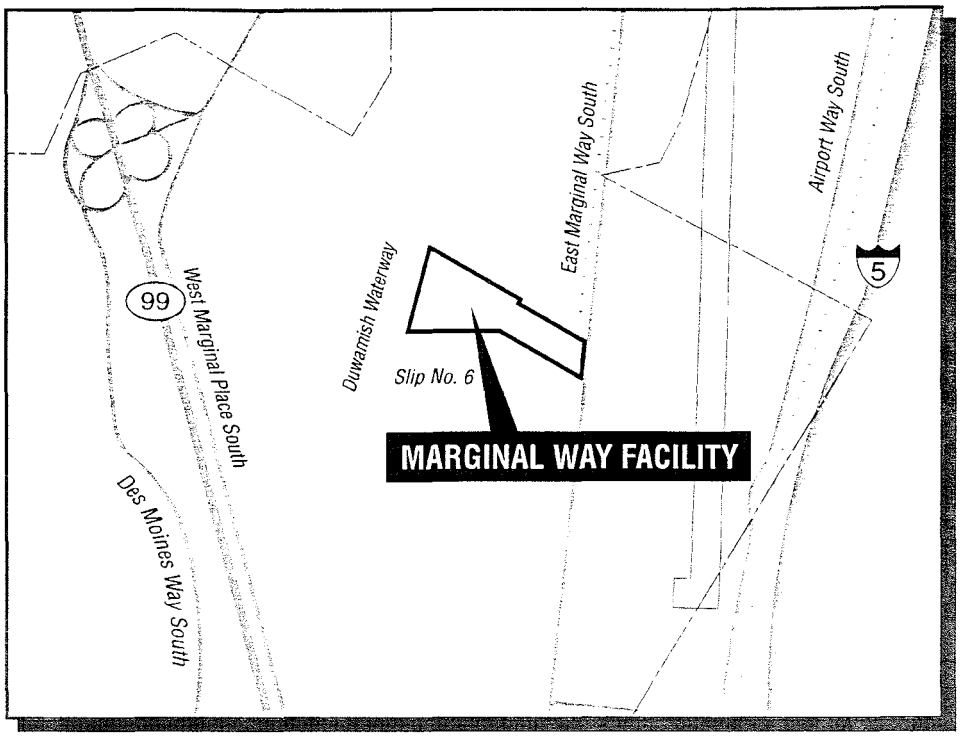
Round 3 Data and Sewer Sediment
Technical Memorandum

RCRA Facility Investigation (RFI)

for the

Marginal Way Facility *Tukwila, Washington*



Prepared for

U.S. Environmental Protection Agency, Region 10

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in accordance with Administrative Order on Consent No. 1091-11-20-3008(h)

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Section 1
Introduction

1.1 Statement of Purpose

On May 6, 1993, Rhône-Poulenc Inc. (RPI) and U.S. Environmental Protection Agency Region 10 (U.S. EPA) entered into an Administrative Order on Consent (the Consent Order). The Consent Order, No. 1091-11-20-3008(h), specifies the Resource Conservation and Recovery Act (RCRA) corrective action requirements for RPI's Marginal Way Facility in Tukwila, Washington (the Facility). One of the corrective action requirements is completion of a RCRA Facility Investigation (RFI). The final RFI Report was submitted to U.S. EPA on June 19, 1995, pursuant to Section VI.B of the Consent Order. This Round 3 Data and Sewer Sediment Technical Memorandum (Memorandum) constitutes an addendum to the RFI Report and presents additional environmental data collected at the Facility.

Round 3 of the RFI was conducted to refine and further support the conclusions presented in the RFI Report. The objectives of Round 3 were to:

- Obtain additional groundwater data to provide (1) a second, confirmatory set of groundwater samples from monitoring wells installed during Round 2 of the RFI; (2) speciation of chromium present in groundwater samples; (3) continued assessment of the nature and extent of the toluene plume; and (4) analysis of total metals concentrations in groundwater samples obtained after micropurging.

- Complete the seep assessment portion of the RFI.

- Finalize the list of chemical constituents in groundwater and seeps that will be addressed in the forthcoming Risk Assessment/Media Cleanup Standards (MCS) evaluation.

- Determine the need for additional sediment sampling at seep locations on the shorelines of the Duwamish Waterway and Slip No. 6.

These objectives were met.

In addition to the Round 3 activities, sewer sediments were sampled. The objectives of this sampling were to:

- Characterize sewer sediments that may have discharged to the King County Storm Drain, to the Duwamish Waterway, or to Slip No. 6.

- Characterize the sediments in former storm and process sewers at the Facility to ascertain whether the sewers needed cleaning. (Some of these sewers were going to be used for future stormwater collection.)

- Determine the need for additional intertidal sediment sampling at former sewer outfall locations in the Duwamish Waterway and Slip No. 6.

These objectives were also met.

Based on the results of the sewer sediment sampling, intertidal sediment sampling was performed at former storm sewer outfall locations in the Duwamish Waterway and Slip No. 6. The objective of this additional intertidal sediment sampling was to determine whether the sewer sediment constituents had impacted the intertidal sediments. This objective was also met.

The activities completed during Rounds 1 and 2 of the RFI are described in the RFI Report. Activities completed since Round 2 and described in this Memorandum include the following:

- Groundwater sampling of 35 of the 38 Facility monitoring wells, and analysis of the samples collected. (Wells DM-1B, DM-2B, and DM-6 were not re-sampled because data from these wells were not needed to meet the objectives listed above.)

- Sampling and analysis of seven seeps from the shorelines of the Duwamish Waterway and Slip No. 6.

- Surface water sampling in the Duwamish Waterway upgradient and down-gradient from the Facility, and analysis of the samples for chromium speciation.

- Sampling and analysis of Facility storm sewer system sediments that may have historically discharged to the King County Storm Drain, to the Duwamish Waterway, or to Slip No. 6.

- Sampling and analysis of Facility process sewer system sediments to ascertain whether the sewers required cleaning prior to their use as part of the revised storm sewer system.

- Sampling and analysis of intertidal sediments adjacent to historical Facility storm sewer outfalls to determine whether Facility discharges had impacted intertidal sediments.

The results and conclusions presented in this Memorandum will be incorporated into the Risk Assessment/MCS evaluation, which will be used during the Corrective Measures Study to assess potential remedial actions needed at the Facility.

1.2 Action Levels

The action levels for each environmental medium were presented in the RFI Report or were developed during subsequent discussions with U.S. EPA and the Washington State Department of Ecology (Ecology). These action levels, as approved by U.S. EPA and Ecology, are as follows:

- For groundwater, the action levels are the most stringent of the state and federal groundwater and surface water standards. Groundwater data are compared to surface water standards because Upper Aquifer groundwater at the Facility appears to discharge to the Duwamish Waterway. These are the same surface water and groundwater criteria that were used previously in the RFI, with the exception that Model Toxics Control Act (MTCA) Method C groundwater criteria are used instead of MTCA Method B criteria. During the July 25, 1995, meeting with U.S. EPA and Ecology, the agencies agreed that the Marginal Way Facility is an industrial facility and, therefore, use of an industrial risk scenario is appropriate. (MTCA Method B criteria assume a residential use, while MTCA Method C criteria assume a commercial/industrial use.)

- For seeps, the action levels are the most stringent of the following surface water standards (note that these are the same surface water standards that the groundwater data were compared to):

  - Federal Aquatic Health Criteria–Freshwater Acute Criterion Maximum Concentrations (40 CFR 131.36[b][1])

  - Federal Aquatic Health Criteria–Freshwater Chronic Criterion Continuous Concentrations (40 CFR 131.36[b][1])

  - State Aquatic Health Criteria–Freshwater Acute Criterion Maximum Concentrations (WAC 173-201A-040[3])

  - State Aquatic Health Criteria–Freshwater Chronic Criterion Continuous Concentrations (WAC 173-201A-040[3])

  - Federal Aquatic Health Criteria–Marine Water Acute Criterion Maximum Concentrations (40 CFR 131.36[b][1])

  - Federal Aquatic Health Criteria–Marine Water Chronic Criterion Continuous Concentrations (40 CFR 131.36[b][1])

  - State Aquatic Health Criteria–Marine Water Acute Criterion Maximum Concentrations (WAC 173-201A-040[3])

- State Aquatic Health Criteria–Marine Water Chronic Criterion Continuous Concentrations (WAC 173-201A-040[3])

- Federal Human Health Criteria for Consumption of Organisms Only (40 CFR 131.36[b][1])

- State Model Toxics Control Act (MTCA) Method C Cleanup Levels for Surface Water (WAC 173-340)

- For sewer sediments, the action levels are the Washington State Marine Sediment Management Standards (SMS) Sediment Quality Standards (SQS, WAC 173-204-320) or Cleanup Screening Levels and Minimum Cleanup Levels (CSL/MCUL, WAC 173-204-520). Although these standards are not directly applicable, exceedances of action levels in sediments present in sewer lines could indicate potential exceedances in sediments discharged via sewer outfalls to the Duwamish Waterway or to Slip No. 6.

- For intertidal sediments, the action levels are the Washington State SMS SQS and CSL/MCUL for a station cluster of three samples, as defined in the SMS.

In this Memorandum, detected constituents are compared with the action levels cited above. In cases when one or more of these action levels are exceeded, these constituents will be further addressed in the Risk Assessment/MCS evaluation. Such an approach is consistent with current U.S. EPA guidance as presented in the final RCRA Corrective Action Plan (Directive 9902.3-2A, May 31, 1994).

1.3 Organization of This Memorandum

The organization of this Memorandum parallels the organization of the RFI Report. Following Section 1, the contents are as follows:

- **Section 2, Summary of Additional Fieldwork**, summarizes the methods and procedures used to conduct the additional fieldwork at the Facility.

- **Section 3, Field and Laboratory Quality Assurance/Quality Control**, presents the quality assurance/quality control (QA/QC) methodology and results.

- **Section 4, RFI Round 3 Findings and Analytical Results**, describes the analytical results and related findings of the RFI Round 3 sampling and analysis.

- **Section 5, Sewer Sediment and Storm Sewer Outfall Intertidal Sediment Findings and Analytical Results**, describes the analytical results and related

findings of the sewer sediment and storm sewer outfall intertidal sediment sampling and analysis.

- **Section 6, Conclusions and Recommendations**, presents the conclusions of the Round 3 and sewer and intertidal sediment findings and makes recommendations for future actions, with emphasis on the findings that require modifications to the conclusions and recommendations presented in the RFI Report.

- **Section 7, References**, lists the references and sources used in preparing this Memorandum.

Figures and tables referenced in the text follow Section 7. Appendices A through G, which provide additional technical information, follow the figures and tables.